Statistics – OR 155, Section 1, Homework # 6

Due: Thursday, February 26, 2009

HW: 5.21b (make & print an Excel plot)

C 15: For the data:

0.8, 2.1, 2.6, 0.9, 2.2, 0.8, 2.2, 0.9

a. Make histograms using the bins:
   i. [0,1), [1,2), [2,3)
   ii. [0.5,1.5), [1.5,2.5), [2.5,3.5)
   iii. [0,1), [1,3)
b. Why are bins [0,2), [1,3) inappropriate here?
c. Why are bins [1,2), [2,5) inappropriate here?

1.28 [data in ta01_005.xls] ((c) loses bump near 50)

1.36 [data in ex01_036.xls] ((a) 4 (b) 2 (c) 1)

1.37, 1.39

C16: for the data of 1.57, find the mean using the Excel function AVERAGE (10.03)

C17: Calculate (and think about as "balance point") weighted average of 1, 2, 3, 10 for the weights:

¼, ¼, ¼, 1/4, (ordinary avg.)	(4)
0.1, 0.1, 0.1, 0.7 (more on 10)	(7.6)
0.3, 0.3, 0.3, 0.1 (less on 10)	(2.8)
1/3, 1/3, 1/3, 0 (none on 10)	(2)
0, 1, 0, 0 (all on 2)	(2)

4.73, 4.74 (1.9, 1)

5.28a, mean part only (900) 5.29a, mean part only

C18 An insurance company sells 1378 policies to cover bicycles against theft for 1 year. It costs $300 to replace a stolen bicycle and the probability of theft is estimated at 0.08. Suppose there is no chance of more than one theft per individual.

a. Calculate the expected payout for each policy, to give a break even price for each policy. ($24)
b. If 2 times the break even price is actually charged, what is the company's expected profit per policy, if the theft rate is actually 0.10? ($18)

4.81 (mean part only)

4.84 (mean part only)